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University of Toronto
Computer Centre
11 King's College Road
TORONTO Ontario
M5S 1A1

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Janet Campbell, Editor

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OFF THE TOP

For the past several years, users of University Computing Services have seen a decrease in the amounts of money available to them. At the same time, the costs of computing have steadily increased. UTCC has recognized these problems but has been forced to maintain high computing rates due to the high cost of operating hardware and software in numerous different locations. The fire in the Sandford Fleming Building further magnified these problems.

Recent technological advances have made it possible to obtain more computing power per dollar spent. In order to take advantage of these new advances and in order to address the high cost of computing, UTCC has put a proposal before the Advisory Committee on Computer Facilities and Services. This proposal is summarized below. Your questions and opinions concerning this proposal may be directed to:

Stan Yagi,
Manager, Services
University of Toronto Computer Centre,
49 St. George.
Toronto M5S 1A4
978-7331

Summary of ACCFS Policy Proposal

As users of the S/370-165-II know, the machine is overloaded for most services and cannot continue to handle the general purpose teaching and research load. In addition, other factors make the IBM S/370-165-II inoperable for a general purpose service:

a. Using an unsupported operating system and computer memory size.

b. No support for new devices such as 3350 disk drives which allow for cost reductions in on-line storage.

c. No support for more advanced telecommunication subsystems.

d. Unbalanced I/O load, insufficient memory.

e. Small cache memory, no microcode support for new features, MOS memory at core speed.

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OFF THE TOP cont'd

UTCC proposes to reduce costs to users while improving the level of service by concentrating on specialized machines for specialized services in a consolidated environment, with cost effective and high technology equipment. In order to do this, the IBM S/370-165-II will be replaced by an IBM 3032 or an equivalent Amdahl 470/V6. This is the most cost effective alternative and the most natural and least disruptive replacement for the IBM S/370-165-II. Also, UTCC will adopt a new costing scheme by which each service will be costed on an individual basis so that cross-subsidization of services will be eliminated as much as possible. These factors will allow UTCC to reduce its memory and CPU charges by 28% on all services currently provided on the S/370-165-II with the exception of TSO which is currently underpriced.

To fully realize the hardware investments already made, the IBM S/370-165-II will be retained to run Sharp APL with the remainder of the system being used for a highly available, low cost execution service (CLASS E). The present CLASS C will be retained to provide a revised CLASS C service for jobs executed during the midnight shift. The new CLASS E service will provide an execution service exclusively at a rate of about $25 to $40 per IBM S/370-165-II processing hour. There will be no memory or I/O charges. However, unit record charges will remain.

By consolidating the major machines in one central location, a further savings and improved services can be realized by sharing peripheral devices such as disk and tape drives.

UTCC also proposes to establish the following mechanisms to guarantee the user community computer services in financially troubled times.

1. Dedicated Initiator for CLASS E Services

For a flat annual rate of $50,000 to $65,000 a year, a dedicated initiator would be made available on the IBM S/370-165-II. A guarantee of resources available for the department would enable departmental control of job scheduling for their work. In effect, departments would manage their own computer resource and determine their own priorities.

2. Amortization of Computer Funds

For users receiving a fixed, one time source of funds, UTCC proposes the following amortization scheme:

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OFF THE TOP cont'd

For every unit of computer funds given to UTCC now, users will receive a monthly computer allocation for a fixed period of time (maximum five years). Charges above the fixed computer allocation will be billed at normal rates. However, the monthly allocation will be the minimum billing. For example, $1,000 would guarantee about $25 to $40 a month computing for 5 years. This scheme would allow users to plan their computing needs based on a fixed amount of funds which are currently available.

UTCC expects to provide an expanded and improved service to its users. UTCC also expects to increase the number of users by increasing the number of products available to the University community. An emphasis will be placed on those products intended to attract new users with limited budgets and a limited knowledge of computing. The products include more effective source program editing, improved Remote Job Entry submission to reduce unit record costs, reduced disk storage costs, contract programming services, increased job handling for customized user service, data base packages, increased availability of easily used graphic packages and devices, and the introduction of improved mark scanning devices and accompanying utility programs.

It is our firm belief that increased availability, reduced costs, and expanded services will, by increasing the base of computer users, benefit all users. Accordingly, we have proposed that the ACCFS adopt the following recommendations:

1. The acquisition of an IBM 3032 or Amdahl 470/V6 for the general purpose academic computer services, to effect a 28% reduction in CPU and memory rates.

2. The introduction of low cost CLASS E execution service on the S/370-165-II at the price of $25 to $40 per processing hour. The exact rate is to be determined by the projected usage.

3. The introduction of two new payment schemes for Computer Services:

   - purchase dedicated initiator for CLASS E services.
   - amortization of computer funds.

Users are reminded that this is a proposal only, for which UTCC is seeking approval. Your comments and reactions will be helpful to UTCC in satisfying your requirements and determining our future direction.

SERVICES PROVIDED BY CRF

Editor's Note: The cover of this issue of COMPUTERNEWS features several of the many facilities available at CRF.

The Computer Research Facility (CRF) offers services that are not available through the other departments of the Computer Centre, particularly in the mini and micro computer areas.

CRF lab equipment provides university researchers with powerful data acquisition and data analysis systems. These packages are fully interactive and make extensive use of computer graphics, providing the user with a high level of feedback. CRF staff, having expertise in the field of data acquisition and data analysis, are able to provide help and guidance to the inexperienced researcher.

In addition to general purpose data acquisition systems, CRF designs and builds, or simply interfaces to its machines, special purpose hardware. CRF expertise in the field of micro-computers will result in state-of-the-art designs of data acquisition systems.

For the researcher who has the need for his own in-lab data acquisition and data analysis system, CRF will suggest a configuration, order, install and support a complete "portable" computer system compatible with equipment in the CRF lab.

The researcher will find a level of expertise at CRF which will guarantee him a choice of hardware equipment which will meet his requirements. CRF also provides complete software packages for data acquisition and analysis on these mini-computer systems (with complete compatibility with the equivalent systems running on CRF machines) in case more computing power or the use of special peripherals is desired.

CRF equipment is also used for the development of mini-computer software, operating systems and programming languages.

CRF Computer Equipment

All of the mini-computer systems owned or installed by CRF are based on the Digital Equipment PDP-11 family of computers, ranging from the PDP-11/03s (based on DEC LSI-11) used in "portable" data acquisition systems, to a powerful PDP-11/40 with memory management, floating point hardware and graphics display unit for in-lab computing.

Peripherals from various manufacturers are interfaced to these systems, chosen generally on a price performance basis. Examples of such peripherals are AED floppy disk drives, SUMMAGRAPHICS digitizing tablets, ZETA incremental plotters, TELETYPE line printers and DOCUMATION card readers.

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SERVICES PROVIDED BY CRF cont'd

Maintenance of some of this computer equipment is provided by CRF hardware services; the rest of the equipment is maintained by the manufacturer or specialized agencies. However, the owner of a computer system maintained by CRF need only deal with CRF when any problem arises with the equipment. CRF handles all the maintenance sub-contracting where applicable.

In-Lab Data Acquisition Systems

Three types of data acquisition systems exist on CRF machines, based on three different types of hardware: Analog-to-Digital converters, Digitizing tablet, and special equipment (generally serial or parallel digital I/O). In the following, a description of the capabilities of each type of system is outlined, and examples of past applications are given.

Analog to Digital Conversion (A/D)

The experimental researcher is often faced with the following situation: when setting up an experiment, the researcher has to find a method of processing the data he is generating as no analog technique is easily applicable, or the required sophisticated and costly equipment that would do the job is not available. The solution, in this case, is to digitize the experimental data and process it on a digital machine. This can be done via A/D converters and an appropriate computer system capable of sampling the analog data at fixed time intervals and storing it on a mass storage device for later processing. CRF equipment and software will provide this. Since the experimental equipment is often immovable, the experimenter may record his data on an FM recorder, then digitize the data from the recorder, using CRF machines (CRF rents FM recorders for this purpose). The data acquisition software will allow the user to set the various parameters, control the sampling operation, and display the digitized data on the graphics device. All these operations are entirely interactive, and assistance is provided to the novice user. Various hardware equipment, such as oscilloscopes and analog filters, is also available.

The user may then use CRF's interactive data analysis packages to display selected pieces of data and perform "standard" analysis, such as power spectrum using Fast Fourier Transform (FFT) techniques, all in an entirely interactive mode. The user may also process the digitized data on a more powerful computer system, such as the IBM S/370-165-II, when extensive "number-crunching" is desired.

Examples of such procedures which have been carried out in the past are innumerable. They range from the experimenter who needed to measure the mean value of a signal (it took ten minutes altogether from setting up the experiment to obtaining the result), to the researcher who used an almost dedicated S/370 to process his data overnight, using FFT analysis. Examples also include a Mechanical Engineering study of the surface roughness of various types of synthetic materials (a special data analysis package was written for this application), and more recently, a Civil Engineering study of the modal frequencies and damping characteristics of the CN tower.

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SERVICES PROVIDED BY CRF cont'd

The reverse of the sampling operation can also be performed; that is, synthetized data can be fed to Digital-to-Analog (D/A) converters and reproduced as analog signals. An example of this is a music synthesis program written by the Department of Music and running in an interactive mode on CRF's PDP-11/40. The data generated is fed to an audio amplifier through the D/A converters. The system is used as an example for an electronic music course but actual work was also done by a Toronto composer.

Digitizing Tablet

A digitizing tablet is a device capable of transmitting to a computer the location of a stylus or "cursor" on its surface as a pair of X-Y coordinates. This allows for the digitization of maps, curves or strip-chart recorder plots for computer processing of the data.

The digitizing tablets on CRF machines are used as data entry devices, and as control media in conjunction with graphics devices. Several standard programs exist for the digitization of curves or sets of discrete points, and for the measurement of areas and curve length.

Many researchers are using these systems to simply digitize various kinds of curves. An example of this sort of application is a study carried out by the Department of Zoology where the length of a section of nerves was measured from micro-photographs. Another application is seen in the study of psoriasis being conducted by the Department of Preventive Medicine. This study involves the measurement of the body areas affected by the disease. Special software was written for this latter application.

Special Data Acquisition Systems

Specialized data acquisition systems or special purpose hardware can be interfaced to CRF machines via digital I/O ports, in serial or parallel form.

An example of special data acquisition systems is an event recorder that is used in two different studies conducted by the Hospital for Sick Children. The first one is the study of the behaviour of premature children. The second one is the study of hyperactive children and their interaction with their peers and teachers. Special data acquisition and data processing software was written for both of these studies.

An example of special hardware interfacing is the research project conducted by the Department of Electrical Engineering on two-dimensional digital filtering using Format number transforms. In this particular case, the user built his own hardware and wrote the processing software.

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SERVICES PROVIDED BY CRF cont'd

Portable Data Acquisition Systems

Many researchers feel it is desirable to have a mini-computer system in their own lab for data acquisition and analysis. These "portable" systems, which eliminate the time consuming operation of recording on a tape recorder and digitizing at a remote location, are small enough to be wheeled from experiment to experiment and from lab to lab. Immediately after the digitizing operation, the researcher can display the digitized data on the console (which also serves as a graphics device) and perform some basic analysis that will give him immediate information about the validity of the data.

CRF provides the university community with the expertise necessary to set up computing equipment using the PDP-11/03 as CPU and floppy disks as mass storage devices. This task, which appears simple enough, is in fact complicated because of the multitude of systems and peripherals existing on the market and because of the rapidly changing technology in this area.

CRF will then provide the researcher with complete packages for data acquisition and analysis. These systems are entirely interactive and powerful enough to allow the user to set up a complex data analysis "program" without any knowledge of programming. For the programmer, libraries containing high level subroutines for data acquisition, display and analysis are also available.

As well as software and hardware consultations, CRF also provides complete maintenance services for the mini-computer systems it installs.

Daniel Guerin, CRF

A WELCOME TO UTCC's NEW DIRECTOR

On behalf of the staff of the University of Toronto Computer Centre and the University's computing community, I would like to extend a warm welcome to UTCC's new Director, Dr. Doron Cohen.

Dr. Cohen undertook studies towards his Doctorate with the Department of Computer Science at the University of Toronto. He completed his studies at the University of Waterloo and was awarded a Ph.D. in Computer Science in 1969.

As mentioned in a previous issue of COMPUTERNEWS, Dr. Cohen brings with him a great deal of experience in both university and commercial environments. He has held faculty appointments at the University of Waterloo and the TECHNION, the Israel Institute of Technology. He has been consultant to and has worked for numerous industrial and commercial companies in the development, management, and marketing of computer systems.

cont'd...

A WELCOME cont'd

For the past five years, Dr. Cohen has been the Director of the TECHNION Computer Centre in Haifa, Israel. Dr. Cohen has been responsible for the development of the TECHNION Computer Centre into one of the largest and most sophisticated computer installations in Israel.

Dr. Cohen can be reached in McLennan Labs, room 352, 978-8948.

Rein Mikkor

INEXPENSIVE COMPUTING

UTCC is presently offering two types of reduced rate computing on the S/370-165-II.

1. CLASS C service, which has been available at UTCC for approximately two and one half years, has shown considerable success at "soaking up" otherwise idle production hours. The highlights of this service are as follows:
   a. NO charge for CPU time.
   b. MEMORY usage charged at a service factor of 0.75 times the standard price of $1.40 per hundred kilobyte minutes.
   c. CLASS C service is active during off-shifts and week-ends when there is NO class A/B load.
   d. Jobs are run on a FIFO basis unless system resource availability dictates temporary modifications to the algorithm to allow the next executable job to execute.
   e. Maximum memory allocation is 250K.
   f. For further information pertaining to CLASS C, refer to the USERBOOK module 3.3BATCH and USERBOOK Chapter 3.2.
2. BLOCK TIME is available to University of Toronto Research users at a reduced rate during times when the S/370-165-II would otherwise be idle. (that is, idle shifts occurring on weekends or statutory holidays which have not been previously assigned as software development and/or hardware maintenance time). The highlights of this service are as follows:
   a. Basic charge of $125.00 per hour with an eight hour minimum which includes a reasonable amount of card and paper stock usage.
   b. All charges to be applied to one Customer Account Number.
   c. This service is contingent upon the availability of an idle shift and an operator.

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INEXPENSIVE COMPUTING cont'd

d. The user has full use of UTCC's hardware and software resources during the block time.

Users requiring additional information or interested in booking a block time shift are invited to contact Paul Scarborough at 978-6220.

Paul Scarborough

GROWING USE OF COMPUTERS IN HUMANITIES RESEARCH

Until recently, researchers in the area of humanities concerned with analytical studies of text had to rely on manual procedures in order to produce the desired results. Therefore, text analyses such as vocabulary frequency counts and parallel textual structure studies which can help resolve questions involving the contested authorship of ancient manuscripts had to be done using time-consuming manual methods. Today, computer applications such as computer-produced concordances have become well known and are widely used to facilitate this type of research. In addition to concordances, computers have facilitated the preparation of other text processing applications such as bibliographies and indices. The computer is increasingly becoming an important aspect of humanities research.

Several years ago, UTCC acquired a computer program, called COCOA, to produce concordances. Although the program proved successful, production costs were very high.

Foreseeing a growing demand for an efficient and low cost concordance program, UTCC decided to write its own concordance package. Called COGS (Concordance Generation System) and written by John Bradley, an Applications Group programmer, the package consists of three programs. When coupled with the IBM Sort Program, these programs are capable of generating concordances of input source text at a relatively low cost. For example, the cost of a concordance of a short (1022 word) input text was $4.12.

While the package was still undergoing testing, UTCC was approached first by a professor from the Department of Medieval Studies and later by a professor from the Department of Classics at Erindale College. Both were interested in having a concordance produced on their texts which were already on tape. The two applications proved to be tremendous undertakings and as a result thoroughly tested the capabilities of the new package. One tape contained 67,000 lines of text and its concordance generated twelve boxes of paper.

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GROWING USE OF COMPUTERS cont'd

Using COGS, a user can receive up to five different types of output from a concordance run. The first is a simple listing of the input text. Another is the "word frequency listing" which comes in two forms - natural ordering and frequency ordering. The final concordance listing has two possible forms - "full" and "short". In the full listing the words which are found are listed down the left-hand side of the page, followed by a variable number of lines, with one line for each occurrence of the word in the given text. In the short concordance listing, the display of the full text quotation is suppressed and only the recorded ID associated with each word occurrence is printed.

It should be mentioned that COGS will be undergoing a major rewrite this coming summer in order to further enhance its capabilities.

In addition to concordances, UTCC has also written bibliography programs for several departments. These bibliographies are able to produce sorts by author, title and subject.

Interest in bibliography packages is growing. It is anticipated that work on two large applications, each involving thousands of bibliographic entries, will begin in the near future.

Anyone who is interested in obtaining information on the COGS package or who would like to discuss a particular application should contact Ruth Borenstein, Customer Services, at 978-6355.

Ruth Borenstein

P.S. ... P.S. ... P.S. ...

RECURRING PROBLEMS WITH RESEARCH PROJECTS

Research grants provide a significant amount of work for our Programming Services group. Medical applications comprise the largest proportion of research requests and usually involve setting up a patient history file from which statistical analysis can be done. Programming Services has written programs for a study of spinal injuries, a stroke unit project (for heart attack victims), a study of lead pollution from Toronto smokestacks, a study of babies' eating habits, and two studies of cancer patients. Other projects include concordances, attitude surveys and a newspaper circulation study.

One problem often arises in these research projects, the problem of organizing raw research data without knowing what "questions" could be asked of the data later on. Researchers tend to collect data on every aspect of a subject in an effort to be as thorough as possible. If questions arise after actual analysis has begun, which demand data not originally collected or data in a different format than originally planned, a lot of effort may be wasted (the timespan between initial data collection and a preliminary or initial file sometimes approaches two years!). Thus, defining which data is to be collected and determining its eventual use is crucial.

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P.S. ... RECURRING PROBLEMS cont'd

A second problem arises when we are faced with estimating costs for this type of research project. Normally, when an estimate is likely to be for a substantial amount, we prefer a two-stage approach; a contract to do an initial analysis for the purpose of developing a comprehensive estimate, and a development contract. But for research grants, the money often isn't available unless the grant is approved, and the approval itself is based partly on our estimates. Sounds like Catch-22, doesn't it?

You can help us by organizing your requirements in a manner which easily lends itself to a computer system design. For further details, refer to the following article, entitled PREPARING AN ESTIMATE REQUEST CHECKLIST FOR RESEARCH COMPUTING.

Paul Roth

PREPARING AN ESTIMATE REQUEST CHECKLIST FOR RESEARCH COMPUTING

The following checklist outlines the information we require to estimate your computing needs. Although it is not a detailed outline, it should serve as an organizing tool in the preparation of your Computing Estimate Request. If you are unfamiliar with the terms used in this checklist, or if your project does not lend itself to this kind of breakdown, please contact your UTCC Customer Service representative.

Estimate Request Checklist for Research Computing

1. Abstract of Research Project

2. Information Storage Requirements

   For every file required give:
   - a. File name.
   - b. Approximate number of records.
   - c. Record Layout (i.e. list all fields on a record, giving length in characters and maximum number of occurrences).

3. Inputs

   - a. Describe the "raw" data and provide samples of the way it is currently stored (i.e. coding forms, questionnaires, index cards, newspaper clippings, etc.).
   - b. When will the collection of raw data be completed?
   - c. Have you started coding the raw data for Computing Data Entry? If so, include samples.
   - d. Describe any other "inputs" required (i.e. updates to a File, etc.).

4. Processing

   - a. Describe all editing required on the Inputs outlined in point 3.
   - b. Describe all calculations, or other data manipulations required, on the Files or Inputs.

5. Outputs

   For every report required give:
   - a. Report Name.
   - b. Approximate number of lines (132 char/line).
   - c. Report Layout (i.e. list all fields on the report and give their approximate length).
   - d. Sort Sequence required.
   - e. Special Form required (if any).
   - f. Sample Report (if available).

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PREPARING AN ESTIMATE cont'd

6. "On-going" Computing Requirements
    a. Input Volume (once files described in 2 are set up).
    b. Processing Frequencies.
    c. Report Frequencies.
7. General Information
    a. Proposed starting date of project.
    b. Proposed duration of project.
    c. Money limitations (if known).

Helen Peacock

DECSYSTEM-10 NEWS

On March 20, at 0800 hours, UTCC began charging for jobs run on the DECsystem-10. The consequent decrease in the number of users (especially those playing "Star Trek" and "Adventure") resulted in a marked improvement in response time.

The session charge is reported as part of the LOGOUT message which users normally receive after entering the KJOB command. (See the LOGOUT help file for more details.) In addition to reporting the actual cost of a session, the LOGOUT message informs the user of the net cost of a session in cases where discounts have been received. The file SYS:RATES.TXT is available to anyone interested in the details of the rate schedule.

The user need not wait until he logs off for information concerning the cost of the session. By entering the command R JOB, the user can obtain a report of the session cost since LOGIN. The latter is useful for such purposes as benchmarking.

New Features

The next major feature to be implemented is "eligibility accounting", in which a check will be made at LOGIN time to prevent users who have exceeded their dollar balance from gaining access to the system. This feature will be implemented by mid-April.

Automatic routing of print files to various IBM remote batch terminals is being developed. This will facilitate the transfer of files for printing at a site selected by the user.

Also plans are continuing for the upgrade of the 1060 system to a 1090. The major change involved will be the installation of a KL10B CPU, a microcoded processor with about twice the computing power of the 1060's KI10.

Helpful Hints

The following outlines several suggestions which should prove helpful in making DECsystem-10 computing more cost effective.

a. Delete Useless Files

When a file is edited, some editors on the DECsystem-10 retain a backup copy of the original file. If, for example, the file FILE.TXT is edited, some editors will retain the original as FILE.BAK. After you are certain your new files are correct, you can save disk storage costs by deleting each

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DECSYSTEM-10 NEWS cont'd

of the corresponding backup files (e.g. DEL *.BAK).

b. Merge Source Files

Any number of independent source language routines may exist in a single file. This significantly reduces the number of disk blocks allocated to you which are not actually data. (The unit of storage, which is called a "cluster", is presently defined as 10 blocks.) Most compilers produce one REL (relocatable binary) per source file, thus eliminating a multiplicity of both source files and REL files. However, this feature sometimes proves to be very costly. That is, in cases where the routines are frequently being edited, the entire source file will be compiled even if only one routine is being edited.

c. Produce Executable Disk Files

Once a program is debugged and in production, it is usually more efficient to produce an EXE file which can be put into execution immediately with a RUN command than to load it from REL files over and over with the EXECUTE command.

Ed West

MVS PROGRESS REPORT

Progress continues in the final development stages of MVS with the major efforts being concentrated in the areas of operational procedures and pricing.

Version 4 of MVS WYLBUR from Online Business Systems has arrived with many fixes in the area of terminal handling. These fixes should correct the reliability problems associated with 2741 terminals without the reverse break feature. Version 4 incorporates many of the features we have suggested to OBS and we should be able to incorporate our accounting changes with little difficulty.

On March 21, UTCC introduced the MINI MVS TEST. These mini tests are conducted during the standard test time period (10 P.M.) and are designed to reduce the impact on the normal production workload while making MVS more readily available to the users. In order to more closely reproduce the load of a normal day and eliminate some of the extraordinarily high CPU usage and large amount of printing, announcements of these mini tests are not made until the afternoon of the test day.

John A. Chapman

APL RELATED NEWS

An APL Users Meeting

From September 18 - 20, 1978, I.P. Sharp Associates Ltd. will be sponsoring an APL users meeting which will convene in Toronto. Speakers from various North American and European industrial installations will be featured at the Conference. These speakers have been invited to describe how their respective organizations apply APL and what their plans for future APL developments are.

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APL RELATED NEWS cont'd

Seminars will include the topics:

.Direction of APL Developments
.Direction of Communications System Developments

.Applications in Resource Industries
.Applications in Banking
.Applications in the Actuarial and Insurance Industry
.Applications in Graphics
.Financial Planning
.Logistic Systems in Multi-national Manufacturing Industries
.Quantitative Analysis and Statistical Techniques

As well, seminars will include topics of a technical nature. Examples of such topics are as follows:

.In-House Migrations
.APL Standards for Documentation and Programming
.The Use of Mini and Micro computers in APL Systems

Also, an evening Seminar in Advanced APL programming techniques, which will include topics in APL Systems and Data Base design, will be offered.

The Conference registration fee is $145.00 and the fee covers admission to all evening and day sessions. Registration for the Conference will take place on Sunday and Monday, September 17th and 18th. Registration forms may be obtained from and should be returned to:

Ms. R. Wild,
I.P. SHARP Associates Ltd.,
145 King Street West,
Toronto, Ontario M5H 1J8

Telephone:(416) 364-5361

DEC APL Workspace and File Transfers

The workspaces, 4 WSTRANS, on SHARP APL and DEC APL-SF provide the user with an easy-to-use, UTCC supported, facility for the transfer of SHARP APL workspaces and data files on the S/360-65 to DEC APL-SF on our new DEC 1060 processor.

For further details, please refer to the SHARP APL CATALOG (1 CATALOG), or to the documentation variables, WSOUTHOW and WSINHOW, in the workspace 4 WSTRANS on either system.

DEC APL Public Library System

A version of the SHARP APL Public Library System is now available on our DEC APL-SF processor.

The DEC APL-SF public library system is completely analogous to the SHARP APL public library system; users familiar with the latter will have no difficulty adjusting to the new environment!

Two workspaces of note are:

1 CATALOG (formally, LIB1:CATALOG)

which may be used to get a quick overview of the public library system, and,

1 HOTNEWS

which, as on the SHARP APL system, contains the latest news on APL events that may affect your use of the APL system. As well, the 1 HOTNEWS workspace contains programming hints and answers to questions that we have received and feel may be of general interest.

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APL RELATED NEWS cont'd

The SHARP APL CATALOG query system for all the on-line documentation of public library programs is not, as yet, explicitly available for the DEC. In fact, because the libraries are essentially the same, and organized in the same way, the SHARP APL CATALOG is a good guide to what is available on the DEC at the present time (for further details, refer to the information concerning SHARP APL Catalog Abstracts).

SHARP APL Catalog Abstracts

The SHARP APL CATALOG, supported in the workspace, 1 CATALOG, on the SHARP APL System, provides the user with an easy-to-use facility for obtaining all of the on-line workspace documentation of the public library system in a convenient page format, as well as organized by application area.

The CATALOG, naturally, has become larger and larger; presently, it will print about 600 pages of information, if desired. In order to reduce the bulk of this information and provide an inexpensive and more portable reference document, UTCC has prepared a guide to the SHARP APL (and, a fortiori, to DEC APL) library ABSTRACTS, with an INDEX.

This document is only about 50 pages in length and may be obtained by executing the function, ABSTRACTS, in the workspace 1 CATALOG of the SHARP APL system. Note in particular that the OFFLINE option of the CATALOG system may be used to print the ABSTRACTS off-line, on one of UTCC's high-speed line printers with APL/FULL print train.

For further information, please refer to the SHARP APL workspace, 1 CATALOG, or to the HOTNEWS item, SHARP APL CATALOG ABSTRACTS.

Ernst Goetze

PERSONNEL CHANGES

I am sorry to announce that Bill Foster is leaving the Centre this month. Bill is leaving his position as Supervisor of Customer Services and will be working for the City of Oshawa. Good luck in your new position.

Clara Silva

RECENT ACQUISITIONS IN THE DEPARTMENT OF COMPUTER SCIENCE LIBRARY

Bauer, F.L. and Eickel, J., eds.
Compiler construction: an advanced course. 2d ed.
New York, Springer-Verlag, 1976.

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UTCC SYSTEMS

SYSTEM/370 MODEL 165-II

- located in SF103/105/112
- provides General Purpose Job Stream, High Speed Job Stream, TSO, WYLBUR
- 4 megabytes of memory
- OS/MVT with HASP

SYSTEM/360 MODEL 65

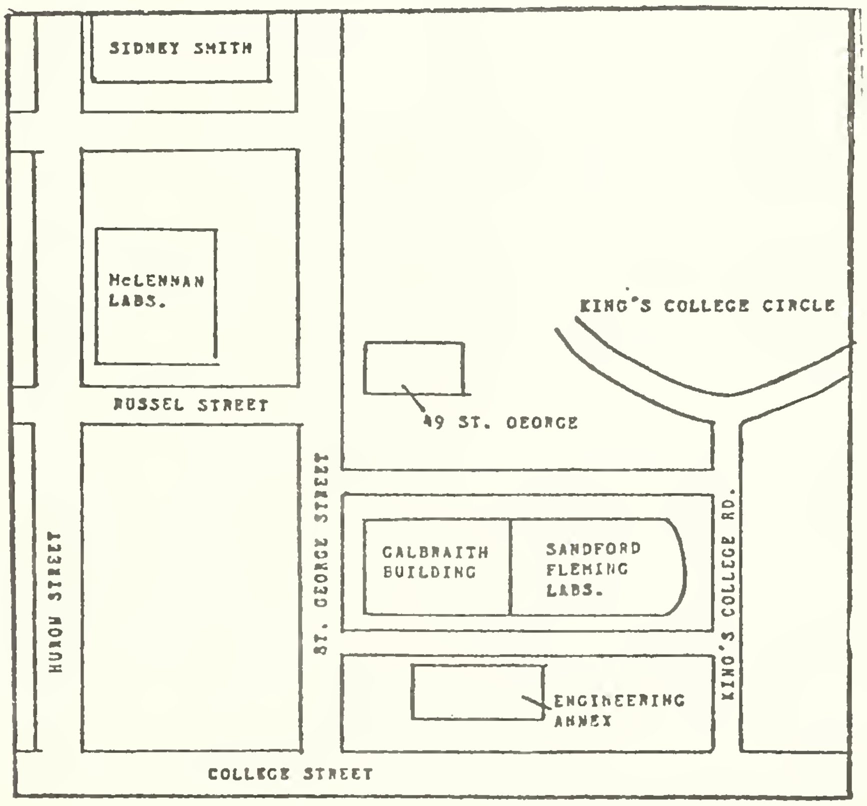
- located in McLennan Physical Laboratories
- provides APL and ATS services
- 1536K bytes of core
- OS/MVT with APL and ATS

COMPUTER RESEARCH FACILITY

- located in SF207
- DEC GT44 System with PDP-11/40 CPU
- DEC GT40 System with PDP-11/05CPU
- provides specialized graphics and interactive graphics
- provides on-line and real-time computing services, data acquisition and minicomputer services

DECSYSTEM 1060

- located in SF109/112
- provides General Purpose Time-Sharing
- 256k - 36 bit works of memory
- TOPS10 operating system



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NOTE:

EA = Engineering Annex
SF = Sandford Fleming
SG = 49 St. George
NP = McLennan Physical (New Physics)
SS = Sydney Smith

JOB AND SYSTEM STATUS QUERIES

SYSTEM/370,TSO	7373
ATS/APL	6234
2741 TERMINAL MALFUNCTIONS	7107

SERVICES

	DIAL-UP	ADVICE
APL	7200	6710
ATS	7100	7107
TSO - 2741	7303	6465
TSO - TTY (10 cps)	7390	6465
TSO - TTY (30 cps)	7386	6465
DATATALK	6710	6710
WYLBUR	7235(EBCDIC) 3950(ASCII) CENTREX 3954(ASCII) NON CENTREX	8599
DEC	4224(CAMPUS) 4224(OFF-CAMPUS)	6465

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